Claims

1. Injection unit of an injection molding machine, comprising a screw adapted to be driven by means of a spindle drive that is not self-locking and is driven by a motor, and to which a hydraulic cylinder for generating an axial force acting on the spindle drive is associated, characterized in that the motor drives pump means whereby a first pressure chamber of the hydraulic cylinder may be supplied with more pressure medium than is needed during the axial displacement of the cylinder.

2. The injection unit in accordance with claim 1, wherein a pressure line between the pump assembly and the hydraulic cylinder is connected via a throttle valve with a closed tank or via a hydraulic accumulator.

3. The injection unit in accordance with claim 2, wherein an outlet of the pump assembly is adapted to be connected with the tank via a bypass valve, so that the hydraulic cylinder is supplied with pressure medium not via the pump.

4. The injection unit in accordance with claim 1 or 2, wherein the pump assembly is a piston pump, the plunger piston of which is driven through a spindle assembly adapted to be driven by the motor.

5. The injection unit in accordance with claim 4, wherein the spindle assembly is adapted to be connected with the motor through a clutch.

6. The injection unit in accordance with claim 5, wherein the motor is adapted to be connected with the spindle drive through an additional clutch.

7. The injection unit in accordance with any one of the preceding claims, wherein a second pressure chamber, preferably the bottom-side cylinder chamber, of the hydraulic cylinder is connected with a hydraulic accumulator.

8. The injection unit in accordance with any one of the preceding claims, wherein the screw is connected with the spindle drive through a free-wheel.

9. The injection unit in accordance with any one of the preceding claims, wherein the spindle nut of the spindle drive is adapted to be immobilized relative to the driven spindle by means of a brake.